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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,368	05/23/2006	Naomichi Sakai	062570	2079

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EXAMINER	
KOPEC, MARK T	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
12/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,368	SAKAI ET AL.	
	Examiner	Art Unit	
	Mark Kopec	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4 and 5* is/are allowed.

6)☒ Claim(s) *1-3, 6-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This application is a 371 of PCT/JP05/13213 (filed 07/12/05). The preliminary amendment filed 05/23/06 is entered. Claims 1-8 are currently pending.

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892 or by applicant on form PTO-1449, they have not been considered.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hermann et al (4,857,504).

Initially, the examiner construes the instant claim language "RE-Ba-O based compound" and "Ba-Cu-O based materials" to require solely the recited elements (no additional elements present in the compound(s). For example, a Y-Ba-Cu-O compound (starting material) is outside the scope of the claimed "RE-Ba-O based compound" and "Ba-Cu-O based materials".

Hermann et al (4,857,504) discloses melt-produced, high temperature superconductors and processes of making same. The superconductor has a preferred composition of R-Ba-Cu-O wherein R is chosen from the group of rare earth metals excluding: Praseodyium; Cerium; and Terbium. The process is carried out at a relatively low temperature of about 950.degree. C., and the process allows fabrication of melt-produced high temperature superconductors of arbitrary shape. The process is based on the reaction between molten barium-copper oxides and solid rare earth oxides, rare earth barium oxides, rare earth copper oxides, or rare earth barium-copper oxides. In an embodiment, the method comprises the steps of: mixing and grinding BaCO3 and CuO with other nominal compositions; pressing the resultant

mixture into a pellet, if necessary; placing the pellet or powder on a pellet or powder that can include rare earth copper oxides; heating the pellet and/or powders to a temperature of approximately 950.degree. C.; and removing a melt-produced superconductor from the remaining powder or pellet (Abstract). The method comprises the steps of: mixing and grinding BaCO3 and CuO with nominal compositions of Ba2Cu3O5, BaCu3O4, BaCu4O5, BaCu6O7, and BaCu12O13 ; pressing the resultant mixture into a pellet, if necessary; placing the pellet or powder on a pellet or powder chosen from the group consisting of R2O3, or RBa-oxides (e.g. RBaO2.5), R-Cu-oxides, or R-Ba-Cu-oxides (e.g. R1.2Ba0.8CuO3.6) wherein R is chosen from the group of rare earth metals excluding: Tb, Pr, and Ce; heating the pellets and/or powders to a temperature of approximately 950.degree. C.; and removing a melt-produced superconductor from the remaining pellet or powder at the bottom (Col 2, lines 29-43). Examples 4 and 8 each utilize a combination Ba-Cu-O and RE-Ba-O as starting materials wherein the Ba-Cu-O melts into the RE-Ba-O powder. The reference specifically or inherently meets each of the claimed limitations.

The reference is anticipatory.

In the event that any minor modifications are necessary to meet the claimed limitations, such as minor variation is ratio of starting materials, such modifications are well within the purview of the skilled artisan.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hermann et al (4,857,504).

Hermann is relied upon as set forth above. The reference differs from claims 7 and 8 in failing to exemplify the addition of ceria or noble metal to the superconductor.

As applicants are surely aware, the addition of such materials is notoriously well know in the superconductor art. Cerium oxide or noble metal addition are widely utilized in order to increase current density through flux pinning, and the addition of noble metals also increases ductility. The instant recitation of such does not patentably distinguish over the prior art.

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

Claims 4 and 5 are allowed. The prior art of record does not disclose or fairly suggest the use of the instantly claimed stoichiometries of RE-Ba-O in the instant method.

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the rejection above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is (571) 272-1319. The examiner can normally be reached on Monday - Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Kopec/
Primary Examiner
Art Unit 1796

MK
December 20, 2007